

## IN THE CLAIMS

Please amend claims 1-25 as follows.

1. (Currently Amended) A method, ~~comprising: of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

determining a sending rate estimate,  $s$ ;

determining any credits or debits for ~~the~~ a packet stream including a plurality of data packets from a source, ~~wherein~~ a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and

probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ .

2. (Currently Amended) A method, ~~comprising: of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

determining a sending rate estimate,  $s$ ;

determining any credits or debits for a ~~the~~ packet stream including a plurality of data packets from a source, a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and

probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ , ~~wherein the step of marking comprises the steps of~~ determining if the sending rate estimate is less than a first rate threshold and in response

to a determination that the sending rate estimate is less than the first rate threshold, setting a probability of marking at least one data packet with a first selected priority level is one of a plurality of priority levels.

3. (Currently Amended) The method of claim 2, further comprising ~~the step of:~~  
in response to a determination that the  $s$  is less than the first rate threshold, incrementing a burst size.

4. (Currently Amended) A method, ~~comprising: of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

determining a sending rate estimate,  $s$ ;

determining any credits or debits for ~~a the packet stream~~ including a plurality of data packets from a source, a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and

probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ , ~~wherein the step of marking comprises the steps of~~ determining if the sending rate estimate is between a first rate threshold (~~FRT~~) and a second rate threshold; and in response to a determination that the sending rate estimate is between a first rate threshold and a second rate threshold, setting a probability of marking a data packet with a subordinate priority level based on  $s$ .

5. (Currently Amended) A method, ~~comprising: of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

determining a sending rate estimate,  $s$ ;

determining any credits or debits for ~~the~~ a packet stream including a plurality of data packets from a source; and

probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ , ~~wherein the step of marking comprises the steps of~~ determining if the sending rate estimate is between a first rate threshold (FRT) and a second rate threshold; and in response to a determination that the sending rate estimate is between a first rate threshold and a second rate threshold, marking a data packet such that a rate of packets marked a subordinate policy level is no greater than  $1 - \text{first rate threshold}/s$  (FRT/ $s$ ).

6. (Currently Amended) A method, ~~comprising: of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

determining a sending rate estimate,  $s$ ;

determining any credits or debits for ~~the~~ a packet stream including a plurality of data packets from a source; and

probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ , ~~wherein the step of marking comprises the steps of~~ determining if the sending rate estimate is above a second rate threshold (SRT); and in

response to a determination that the sending rate estimate is above the second rate threshold SRT, marking the packet such that a rate of packets marked the second priority level is at least (second rate threshold SRT – first rate threshold FRT)/s.

7. (Currently Amended) The method of claim 6, further comprising ~~comprises the step of:~~ in response to a determination that the sending rate is above the second rate threshold SRT, marking the packet such that a rate of packets marked a lowest priority level is at least (s- second rate threshold SRT)/s.

8. (Currently Amended) A method, comprising: ~~of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

determining a sending rate estimate, s;

determining any credits or debits for ~~the~~ a packet stream including a plurality of data packets from a source; and

probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate, s;

determining if the sending rate estimate is greater than a rate threshold;

in response to a determination that the sending rate estimate is greater than the rate threshold, determining if a burst size is greater than a minimum burst; and

in response to a determination that the burst size is greater than the minimum burst, marking the packet a first priority level.

9. (Currently Amended) The method of claim 8, further comprising ~~the step of:~~ in response to a determination that the burst size is greater than the minimum burst, decrementing the burst size.

10. (Currently Amended) A method, ~~comprising: of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

determining a sending rate estimate,  $s$ ;

determining any credits or debits for ~~the~~ a packet stream including a plurality of data packets from a source; and

probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ ;

determining if the sending rate estimate is greater than the super rate threshold, determining if a burst size is greater than a minimum burst; and

in response to a determination that the burst size is greater than a minimum burst, marking the packet a priority level based on a count of packets marked a highest priority level during a period.

11. (Currently Amended) The method of claim 10, further comprising ~~the step of:~~ in response to a determination that the burst size is greater than the minimum burst, decrementing the burst size.

12. (Currently Amended) A apparatus, comprising: ~~of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

a first determining unit configured to determine ~~means for determining~~ a sending rate estimate,  $s$ ; and

a second determining unit configured to determine ~~means for determining~~ any credits or debits for the packet stream, wherein a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and

a marking unit configured to ~~means for~~ probabilistically mark ~~marking~~ the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ .

13. (Currently Amended) A apparatus, comprising: ~~of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

a first determining unit configured to determine ~~means for determining~~ a sending rate estimate,  $s$ ; and

a second determining unit configured to determine ~~means for determining~~ any credits or debits for the packet stream, wherein a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and

a marking unit configured to ~~means for~~ probabilistically mark ~~marking~~ the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ , the marking unit comprising ~~wherein the means for marking comprises~~

a third determining unit configured to determine ~~means for determining~~ if the sending rate estimate is less than a first rate threshold; and

a setting unit configured to set ~~means for setting~~ a probability of marking at least one data packet with a first selected priority level to a first value, said means responsive to a determination that the sending rate estimate is less than the first rate threshold, wherein said first selected priority level is one of a plurality of priority levels.

14. (Currently Amended) The apparatus of claim 13, further comprising ~~comprises~~ a ~~means for incrementing~~ a unit configured to increment a burst size, in response to a determination that the  $s$  is less than the first rate threshold.

15. (Currently Amended) A apparatus, comprising ~~of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

a first determining unit configured to determine ~~means for determining~~ a sending rate estimate,  $s$ ; and

a second determining unit configured to determine ~~means for determining~~ any credits or debits for the packet stream, wherein a probability marking of the packet

stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and

a marking unit configured to ~~means for~~ probabilistically mark ~~marking~~ the packet stream to one of a plurality of priority levels based on the sending rate estimate, s, the marking unit comprising ~~wherein the means for marking comprises~~

a third determining unit configured to determine ~~means for determining~~ if the sending rate estimate is between a first rate threshold (FRT) and a second rate threshold; and

a setting unit configured to set ~~means for setting~~ a probability of marking a data packet with a subordinate priority level based on s, said means responsive to a determination that the sending rate estimate is between a first rate threshold and a second rate threshold.

16. (Currently Amended) The apparatus of claim 12, wherein the mark unit ~~means for marking~~ comprises: a determining unit configured to determine ~~means for determining~~ if the sending rate estimate is between a first rate threshold (FRT) and a second rate threshold; and another marking unit configured to mark ~~means for marking~~ a data packet such that a rate of packets marked a subordinate priority level is no greater than  $1 - (\text{first rate threshold FRT} / s)$  in response to a determination that the sending rate estimate is between a first rate threshold and a second rate threshold.



17. (Currently Amended) A apparatus, ~~comprising: of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

a first determining unit configured to determine ~~means for determining~~ a sending rate estimate,  $s$ ; and

a second determining unit configured to determine ~~means for determining~~ any credits or debits for ~~the~~ a packet stream including a plurality of data packets from a source, ~~wherein~~ a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and

a marking unit configured to ~~means for~~ probabilistically mark ~~marking~~ packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ , the marking unit comprising wherein the means for marking comprises

a third determining unit configured to determine if the sending rate estimate is above a second rate threshold ( $SRT$ ); and

a marking unit configured to mark ~~means for marking~~ the packet such that a rate of packets marked the second priority level is at least (second rate threshold  $SRT$  - first rate threshold  $FRT$ )/ $s$ , in response to a determination that the sending rate estimate is above the second rate threshold  $SRT$ .

18. (Currently Amended) The apparatus of claim 17, further comprising ~~comprises:~~ a ~~means for marking~~ another marking unit configured to mark the packet such that a rate

of packets marked a lowest priority level is at least ( $s$ - second rate threshold SRT)/ $s$ , in response to a determination that the sending rate is above the second rate threshold SRT.

19. (Currently Amended) A apparatus, ~~comprising: of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

a first determining unit configured to determine ~~means for determining~~ a sending rate estimate,  $s$ ; and

a second determining unit configured to determine ~~means for determining~~ any credits or debits for the a packet stream including a plurality of data packets from a source, wherein a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met;

a marking unit configured to ~~means for~~ probabilistically mark ~~marking~~ the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ ;

a third determining unit configured to determine ~~means for determining~~ if the sending rate estimate is greater than a rate threshold;

a fourth determining unit configured to determine ~~means for determining~~ if a burst size is greater than a minimum burst, in response to a determination that the sending rate estimate is greater than the rate threshold; and

another marking unit configured to mark ~~means for marking~~ the packet a first priority level, in response to a determination that the burst size is greater than a minimum burst.

20. (Currently Amended) The apparatus of claim 19, further comprising ~~comprises: a means for decrementing a decrementing unit configured to decrement the burst size, in response to a determination that the burst size is greater than the minimum burst.~~

21. (Currently Amended) A apparatus, comprising: of marking a packet stream including a plurality of data packets from a source comprising the steps of:

a first determining unit configured to determine ~~means for determining~~ a sending rate estimate,  $s$ ; and

a second determining unit configured to determine ~~means for determining~~ any credits or debits for ~~the~~ a packet stream including a plurality of data packets from a source, wherein a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met;

a marking unit configured to ~~means for~~ probabilistically mark ~~marking~~ the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ ;

a third determining unit configured to determine ~~means for determining~~ if the sending rate estimate is greater than a super rate threshold;

a fourth determining unit configured to determine ~~means for determining~~ if a burst size is greater than a minimum burst, in response to a determination that the sending rate estimate is greater than the super rate threshold; and

another marking unit configured to mark ~~means for marking~~ the packet a priority level based on a count of packets marked a highest priority level during a period, in response to a determination that the burst size is grater than a minimum burst.

22. (Currently Amended) The apparatus of claim 21, further comprising ~~a means for decrementing~~ a decrementing unit configured to decrement the burst size, in response to a determination that the burst size is greater than the minimum burst.

23. (Currently Amended) A method, ~~comprising: of marking a packet stream including a plurality of data packets from a source comprising the steps of:~~

determining a first probability by using a first algorithm;

determining at least one second probability by using a second algorithm, the first algorithm being different from the second algorithm; and

weighting each probability so that each probability contributes to a net probability, wherein the weighting comprises determining any credits or debits for a packet stream including a plurality of data packets from a source, wherein a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met.

24. (Currently Amended) A computer program embodied within a computer readable medium, when executed the computer program includes means for marking a packet stream including a plurality of data packets from a source by performing ~~the steps of~~:

determining a sending rate estimate,  $s$ ; and

determining any credits or debits for the packet stream, wherein a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and

probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ .

25. (Previously Presented) A system for marking a packet stream including a plurality of data packets from a source, comprising:

a metering tool for determining a sending rate estimate,  $s$ ; and

a determining means for determining any credits or debits for the packet stream, wherein a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and

a router for probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ .

26. (Original) An apparatus for marking a packet stream including a plurality of data packets from a source comprising:

a metering tool for determining a sending rate estimate,  $s$ ; and

a determining component for determining any credits or debits for the packet stream, wherein a probability marking of the packet stream is improved while there is a sufficiently accumulated credit and when a first criterion is met; and

a marking component for probabilistically marking the packet stream to one of a plurality of priority levels based on the sending rate estimate,  $s$ .